

FM O&G BALDWIN HILLS

2012 EQAP AUDIT REPORT

Marine Research Specialists

10/31/2013

2012/2013 EQAP AUDIT REPORT

SUMMARY

This report provides an overview of the 2012 Environmental Quality Assurance Program (EQAP) audit conducted by Marine Research Specialists (MRS) on September 18, 2013 at the Freeport-McMoRan Oil & Gas (FM O&G), formerly Plains Exploration and Production (PXP), offices in Los Angeles, California. An initial review of FM O&G's, then PXP, compliance matrix was conducted by MRS on April 3, 2013.

The audit consisted of both a comprehensive file review of reports, plans, and various documentation logs, as well as a field review of operations and maintenance procedures. Additionally, MRS assessed the implementation status of the previous year's recommendations.

The overall findings of the audit were positive, confirming FM O&G's compliance with the EQAP-related mitigation measures identified in the Baldwin Hills Community Standards District (CSD). In conducting the 2012 EQAP audit, the following two recommendations were developed for potential improvements that would ensure continued compliance with the EQAP-related provisions of the CSD.

Findings/Recommendations

1. *Noise Making Equipment Service*: Update the equipment maintenance management program (Maximo[®]) to include the inspection and, if necessary, service of noise making equipment consistent with CSD provision 22.44.142E5d. The maintenance management program data shall serve as the equipment service log required by the subject requirement.
2. *Contractor/Sub-Contractor Training*: The FM O&G Training Records Report does not include a complete list of contractor/subcontractor training records. Compliance with the EQAP requires confirmation that all CSD training is being conducted. Include contractor/sub-contractor training records in the FM O&G Training Records Report or provide the records in a format that documents that the required training has been completed.

BACKGROUND

FM O&G operates the Inglewood Oil Field in the Baldwin Hills Zoned District of Los Angeles County. Existing operations of the oil field include the extraction of oil and gas from subsurface reservoirs, removal of water from the crude oil, removal of impurities and gas liquids from the gas, and shipping of crude oil through pipelines to refineries located in Southern California.

On October 28, 2008, the Los Angeles County Board of Supervisors adopted the Baldwin Hills CSD to provide a means of implementing regulations, safeguards, and controls for activities related to drilling for and production of oil and gas within the oil field located in the Baldwin Hills area of Los Angeles County.

The Environmental Quality Assurance Program (EQAP) entails the preparation of an EQAP Program by FM O&G indicating how FM O&G intends to comply with all conditions of approval

and plans that are part of the CSD (prepared in February 2008, revised in August 2008, and approved on October 28, 2008), field-monitoring to enforce compliance with environmentally protective permit conditions, preparation of an annual EQAP Report by FM O&G; and finally, a follow up EQAP audit to document compliance and noncompliance items and provide recommendations as deemed appropriate.

On February 28, 2013, FM O&G (then PXP) submitted the 2012 Annual EQAP Report as required by the CSD.

On April 2, 2013, MRS conducted an initial review of the 2012 Annual EQAP Report. On September 18, 2013 MRS, along with representatives from FM O&G, conducted a comprehensive file and field audit of the 2012 Annual EQAP Report at FM O&G offices.

EQAP requirements comply with State law that mandates the adoption of a program for reporting or monitoring mitigation measures included as permit conditions for projects (Public Resources Code § 21081.6(a) and CEQA Guidelines §§ 15091(d) and 15097).

CSD REQUIREMENT

CSD Section F.1 requires PXP to develop and implement the following:

Environmental Quality Assurance Program (EQAP). The Operator shall comply with all provisions of an Environmental Quality Assurance Program (EQAP) that has been approved by the Director. The following provisions relate to the EQAP:

- a. *EQAP Requirements. The EQAP shall provide a detailed description of the steps the Operator shall take to assure compliance with all provisions of the CSD, including but not limited to all of the monitoring programs called for by the CSD.*
- b. *Annual EQAP Reports. Within 60 days of the end of each calendar year, the Operator shall submit to the Director an annual EQAP report that reviews the Operator's compliance with the provisions of the EQAP over the previous year and addresses such other matters as may be requested by the Director. The Annual EQAP Report shall include the following:*
 - *A complete list and description of any and all instances where the provisions of the EQAP, or any of the monitoring programs referred to therein or in the CSD, were not fully and timely complied with, and an analysis to how compliance with such provisions can be improved over the coming year.*
 - *Results and analyses of all data collection efforts conducted by the Operator over the previous year pursuant to the provisions of the CSD.*
- c. *EQAP Updates. The EQAP shall be updated as necessary and submitted to the Director for approval along with the annual EQAP report. The EQAP updates shall be provided to the CAP and MACC for review and comment. Comments from the CAP and MACC, if timely received, shall be considered by the Director before making a decision to approve the same. The Director shall complete the review of EQAP updates as soon as practicable, and shall either approve the updated EQAP or provide the Operator with a list of specific items that must be included in the EQAP prior to approval. The Operator shall respond to any request for additional information within 30 days of receiving such request from the Director, unless extended by the Director.*

AUDIT PARTICIPANTS

Table 1 identifies the individuals who participated in the 2012 EQAP Audit.

Table 1 – Audit Participants

NAME	POSITION	ORGANIZATION
Candace Salway	EH&S Manager	PXP
Pat Gorski	Senior EH&S Advisor	PXP
Laura Vlk	Senior EH&S Specialist	PXP
Luis Perez	Senior Project Manager	MRS
Greg Chittick	Senior Engineer	MRS
Dean Dusette	Senior Scientist	MRS

2011 RECOMMENDATIONS' STATUS

As a result of the 2011 EQAP Audit, MRS developed two recommendations for potential improvements that would ensure continued compliance with the EQAP-related provisions of the CSD. Table 2 provides the implementation status of those recommendations.

Table 2 – 2011 Recommendations' Status

RECOMMENDATION	STATUS
1. Water Management Plan: Provide an updated plan that identifies the projected water usage numbers. Confirm the same number is reflected in the Recycled Water Report and obtain approval.	Implemented. An updated Water Management Plan was reviewed and approved by the County on September 13, 2012. The Recycled Water Report and Water Management Plan usage numbers are consistent.
2. Ombudsperson: Add PXP's time of response to written complaints log in order to provide documentation that PXP responds within 1 hour as specified in the CSD (section J.3)	Implemented. PXP started documenting the response time in the 2012 2 nd quarterly report.

SITE PHOTOS

Photos at the end of this report depict various components of the 2012 oil field operations. The photos were taken either during the EQAP audit field visit or during regular field visits throughout the year.

SITE VISIT OBSERVATIONS

Some Observations during the year associated with the regular Site Visits are listed below:

1. PXP/FM O&G drilled or re-drilled 20 wells and abandoned 5 wells in 2012. Site visits documented that the drill sites throughout the year were consistently clean and organized. Incidents involving pooled fluids were addressed in a timely manner either by using a vacuum truck or clean up pads. CSD requirements for odorant in and around the drill hole and mud shakers to reduce potential drilling odors were implemented with the volume of odorant increased when requested. Additional CSD requirements for drilling sites noted during site inspections included the portable flare, gas buster, wind socks, sound walls and blankets, and alarm lights. Site safety protocols were active with safety briefings by the onsite safety officer prior to each visit and access to real-time data in the Site Superintendent's trailer was available when requested.
2. On February 25, 2012, a release of 90 barrels of produced water from a corroded six inch trunk pipeline flowed across the facility and into a stormwater basin. Several barrels flowed off site and onto Stocker Street before returning back on site through the storm water drain system where it was contained in the storm water basin. The corroded pipeline was connected to a shut in well and was removed from service. All required agency notifications were completed by PXP/FM O&G staff.
3. Air monitors were installed and operational at each drill site throughout the year recording THC and H₂S levels; THC was monitored at four locations on the perimeter of the Gas Plant. None of the monitoring instrumentation recorded an exceedance in 2012. Recalibrations were completed when requested and daily bump test documentation was provided upon request by the Site Superintendent. Horn and light alarm repairs were completed when needed.
4. Inglewood Oilfield perimeter signs and drill site signs are installed in accordance with the approved Signage Plan.
5. The Meteorological Station operated during 2012 with a greater than 99% valid data capture rate with most of the invalid data recorded following a power outage. The station sensors did not require any maintenance or repairs in 2012; the instruments were replaced during a scheduled calibration/audit by the sensor vendor, Met One, in November 2012. Data review included in the 2012 Annual Audit and Data Validation Report indicates the data collected is consistent with the nearby SCAQMD site located at Los Angeles International Airport.
6. Soil remediation at all three bioremediation farms (Vickers, LAI South & LAI North) was active through October 2012. Odor suppressants were used during material loading and tilling at each site. Site inspection visits documented that culverts were cleared and free of debris and the berms surrounding the farms were installed and maintained as required. On October 16, 2012 during a site inspection by the SCAQMD, soil VOC levels were recorded in excess of 50 ppm resulting in a Notice of Violation (NOV) by SCAQMD. The NOV requires PXP/FM O&G to meet the requirements of SCAQMD Rule 1166, resolve past inspection issues and coordinate restarting the bioremediation farms with District staff. Operation of the bioremediation farms ceased on October 19th when the NOV was issued. No additional soil remediation activities occurred in 2012 due to the installation of the modifications and upgrades required by the SCAQMD.

7. Review of the Oil Tank Pressure Monitoring Reports for 2012 showed there were no tank vapor pressure incidents that caused a tank to vent to atmosphere. One breakdown report was filed for the Inglewood #4 Wash Tank (D39); the issue was determined to be a failed level controller unit. The controller unit was replaced and the tank did not vent to the atmosphere.
8. The accelerometer seismic station, originally installed on 5/20/09, was operational with collected data transmitted by cell link to the CalTech Seismological Laboratory. On July 25, 2012, a 3.7 magnitude earthquake occurred with the epicenter in the Marina Del Rey/Playa del Rey/Westchester area, however, the seismic event did not exceed the 13 percent of gravity criteria that would have required operations to cease.
9. Requirements of the Quiet Mode Drilling Plan (QMDP) were observed during a night time site inspection on January, 25, 2012 at Drill Site VRU 264 RD1. QMDP requirements noted during the inspection included; odorant and odorant misters, air monitors, sound walls and blankets, rubber matting on the catwalk, rubber matting on the V-door, 100 foot noise monitor, and the use of walkie-talkies for communication between the main drill site and the mud storage area. Noise monitoring results from portable meter readings taken from areas throughout the drill site area were within acceptable limits.
10. Installation of the new gas plant flare was completed in 2012.
11. Annual spill response training in compliance with CSD E.1.b. was completed on 2/1/12.
12. Annual Emergency Response Plan (ERP) drills with the Culver City and LA County Fire Departments in compliance with CSD F.4 were completed on 11/7/12.
13. The Community Alert Notification system was tested on 12/19/12.

FIELD AUDIT/COMPLIANCE STATUS

The PXP/FM O&G 2012 Annual EQAP Report was reviewed by MRS staff on April 3, 2012. The results of that review are included in the two tables following the Conclusion section of this report. The tables were generated to document review of the Annual EQAP Report and guide the file and field audit conducted at the FM O&G facility on September 18, 2013. The table column titled “Notes” completes the findings of the file and field review of the onsite audit.

RECOMMENDATIONS

1. *Noise Making Equipment Service*: Update the equipment maintenance management program (Maximo[®]) to include the inspection and, if necessary, service of noise making equipment consistent with CSD provision 22.44.142E5d. The maintenance management program data shall serve as the equipment service log required by the subject requirement.
2. *Contractor/Sub-Contractor Training*: The FM O&G Training Records Report does not include a complete list of contractor/subcontractor training records. Compliance with the EQAP requires confirmation that all CSD training is being conducted. Include contractor/sub-contractor training records in the FM O&G Training Records Report or

provide the records in a format that documents that the required training has been completed.

CONCLUSION

The overall findings of the audit were positive, confirming PXP's compliance with the EQAP-related mitigation measures identified in the Baldwin Hills CSD.

File Review				
<i>Plans, Reports and Approvals (page 4)</i>			<i>Item #</i>	<i>Notes</i>
1.	Odor Complaints	Verify number of complaints – 25; only counted 24 in complaints logs Verify number of complaints determined to be due to oil field – 2; log could attribute four (Ref #s: 0512, 2212, 2512 & 3712)	n/a	Correct count verified at audit as 24. Audit review of referenced complaints: 0512 – Due to landscaping crew application of pesticide Roundup. 2212 – Cause of odor traced to Gas Co. blow-down of gas line. 2512 – Cause of odor unknown, wind direction confirmed to be from oil field towards complaint location. 3712 - Cause determined to be work over equipment.
2.	Noise Complaints	Verify number of complaints – 11; only counted 10 in complaints logs	n/a	Correct count verified at audit as 10.
3.	2013 DRWAP	Amendment approval (1/14/13) not shown in table on page 4; however, signed approval provided in Appendix B	n/a	The 2013 DRWAP approval date verified at audit as 1/14/13.
4.	Annual Hazardous Materials Plan	Check plan/confirm submittal date to Fire Department	9	Confirmed at audit as submitted 12/17/13.
5.	Annual Emergency Response & Spill Response Training	Confirm training	13	Obtained copy of Spill Response Containment Training attendance list, dated 2/1/12.
6.	2 nd Annual Ground Movement Survey (PSOMAS) Annual Geotech Report (Fugro) Geotechnical Investigations for Property Damage Claims	Obtain and confirm submittal dates	29a	Reports reviewed at audit; investigation reports were sent to each subject homeowner.
7.	CAN System Annual Testing	Confirm test date	18	12-19-12 test date confirmed. Obtained copy of test notification (job statistics).

File Review				
<i>4.2 Data Analyses Results (page5)</i>			<i>Item #</i>	<i>Notes</i>
8.	Meteorological Station	Check annual data validation report/identify annual submittal month	21j	Data validation report reviewed at audit, submittal date confirmed as 4/12/13. Sensors replaced by vendor Met One Instruments in November 2012.
9.	Storage Tank Pressure Monitoring	Obtain date for reported breakdown and associated report (see #25 below)	14f	Breakdown report reviewed at audit, problem traced to failed tank level controller unit; level controller unit replaced.
File Review				
<i>Appendix A</i>			<i>Item #</i>	<i>Notes</i>
11.	Ombudsperson	Check inquiry log and response timing	1a 1o 1p 14o 14s 48	Reviewed all four quarterly logs. PXP began implementing 2011 recommendation in 2 nd quarter of 2012.
12.	Quiet Mode Drilling Plan Annual Review	Confirm review	1	Obtained 12/18/12 email from PXP to County confirming plan review and no need for modifications.
13.	Quiet Mode Drilling Procedures Training	Check training log	1c	Obtained PXP Training Records Report that shows training dates for several employees: 1/9/12, 8/2/12, 8/15/12, 9/12/12, 9/20/12 & 9/24/12. Reviewed Training Records Report at audit, contractors training documentation incomplete. See 2012 Audit Report Finding/Recommendation #2.
14.	Quiet Mode Drilling Implementation – Materials/Equipment	Confirm implementation; observe quiet mode drilling implementation during evening site visit	1d 1e 1h	Night inspection to observe QMDP implementation completed on January 25, 2012.
15.	Equipment Maintenance	Check annual log; obtain copy of Ensign annual rig service log	1f	Reviewed equipment maintenance management program (Maximo [®]) at audit including Ensign 516 maintenance records in the field at drilling site well TVIC-VRU 4214. Documentation of maintenance for noise generating equipment was discussed; see 2012 Audit Report Finding/Recommendation #1.
16.	Quiet Mode Drilling Plan Enforcement	Check acoustics engineering firm’s noise monitoring report	1n	Obtained copy of Behrens and Associates’ 24-hour report for 1-2-13 to 1-3-13 for LAI1-4573 well.

File Review				
17.	DOGGR Permitting	Check NOI approvals	2e	Multiple DOGGR approvals were reviewed at the audit.
18.	Site Plan Review	Check approvals Inspect and retain copy of site plan	2f	Site plans were reviewed at the audit with County approval stamps confirmed.
19.	Well Pad Construction Permitting	Check Site Specific Grading Permit(s) or confirm approval of Master Grading Plan showing required information	2h	Site specific permit not needed since Master Grading Plan shows required information, none over 5,000 cubic yards. Grading plan maps reviewed at the audit, County approval stamps confirmed.
20.	Gas Sensors (air monitoring)	Check log from three dates	5d	Reviewed log from VIC-178 at audit and checked calibration record for 11/16/13. Calibration record documented all mobile and gas plant detectors calibrated correctly.
		Check Daily Checklist – Reworking Rig	5e	
		Check 5-year data storage	5g,11	
		Check (re)calibration documentation; retain copy of calibration and testing report Obtain copy of gas plant report	6e	Obtained PXP Training Records Report that shows training dates for several employees: 1/9/12, 8/2/12, 8/15/12, 9/12/12 & 9/20/12. Reviewed Training Records Report at audit, contractors training documentation incomplete. See 2012 Audit Report Finding/Recommendation #2.
		Check personnel training log	6j	
21.	Met Station	Check training log	19a	Reviewed training log and annual report at audit. Reviewed calibration documentation, sensors replaced November 2012.
		Check monthly analyses & annual report	20b, 21j	
		Check sensor log from three dates	20d	
		Check (re)calibration documentation	21e	Reviewed calibration documentation, sensors replaced November 2012. All sensors passed annual calibration.
		Check 10-year data storage	21i	n/a
22.	Alarm Reports	Obtain quarterly report	5g.9, 5g.10, 6x	Alarm reports reviewed at audit, completed quarterly.
23.	Annual Emergency Response Drills	Confirm drill date	7	Obtained 12/17/12 email from PXP to County confirming drill date with attachment containing attendee sign in sheet. OSPR sign off date confirmed at audit as 12/4/12.
		Obtain copy of exercise sign off		
24.	Odor Minimization Plan	Confirm reviewed in 2012	14	Obtained 12-18-12 email from PXP to County stating no modifications to the plan necessary.

File Review				
25.	Breakdown Report per Pressure Monitoring and Venting System for Crude Oil Tanks	Confirm submittal date & corrective action (none) for one 2012 incident; obtain breakdown report	14f	Breakdown report reviewed at audit, problem traced to failed tank level controller unit; level controller unit replaced.
26.	Odor Awareness Training	Check training log	14j, 14k, 14l	Obtained PXP Training Records Report that shows training dates for several employees: 1/9/12, 8/2/12, 8/15/12, 9/12/12, 9/20/12 & 9/24/12. Need contractors training list. Reviewed Training Records Report at audit, contractors training documentation incomplete. See 2012 Audit Report Finding/Recommendation #2.
27.	New Flare Operational	Confirm operational	24	MRS observed emergency flare noise test on 7/26/12.
28.	Dust Control Personnel Training	Check training log	26y	Obtained PXP Training Records Report that shows training dates for several employees: 1/9/12, 8/2/12, 8/15/12, 9/12/12, 9/20/12 & 9/24/12. Need contractors training list. Reviewed Training Records Report at audit, contractors training documentation incomplete. See 2012 Audit Report Finding/Recommendation #2.
29.	Erosion Control Plan Review	Confirm plan reviewed (required every 2 years) and obtain modifications, if any – approved by County on 5/27/10	32a	Reviewed 4/30/12 with no changes recommended.
30.	Pre-Construction Biological Surveys	Confirm submitted to county Obtain annual Special Status Species Compliance report	33b (page 16)	Reviewed Special Species Status Compliance report. Pre-construction surveys completed as required.
31.	Updated ERP for Biological Resources	Confirm implemented	n/a (42 in 2011 matrix)	Originally approved on 3-31-10 with expiration of 3-31-12; however, updated approval in January 2011. On 5/25/12, PXP stated the expiration date indicates the time by which the plan has to be implemented. PXP confirmed this with the County.

File Review				
32.	Cultural Resources Sensitivity Training	Check training log	33a (page 19)	Obtained PXP Training Records Report that shows training dates for several employees. Reviewed Training Records Report at audit, contractors training documentation incomplete. See 2012 Audit Report Finding/Recommendation #2.
33.	Landscaping, Visual Screening, Irrigation Plan	Obtain copy of Phase III approval	34	Phase III submitted on 5/15/12 and approved on 2/20/13.
34.	Recycling Plan	Check training log	35e	
35.	Water Management Plan	Check status on approval	48	Obtained copy of plan revised in June 2011 and approved by the County on 9/13/12.
36.	Unused/Abandoned Equipment Removal Plan (UAER Plan)	Check schedule for removal of out of service equipment	38, 38a, 38b	Obtained copy of December 2012 update.
37.	Daily Inspections of Equipment and Safety Devices	Check logs and obtain copies of inspection sheets	42a 42b	Inspections of equipment and safety devices logged in equipment maintenance management program (Maximo®); spot check of data reviewed at audit.
38.	Abandoned Well Testing	Check annual test records	45	Obtained copies of test report dated 5-21-12.
39.	Equipment Service Log	Check log and obtain copies of inspection sheets and work orders	50	Equipment service log part of equipment maintenance management program (Maximo®); spot check of data including PSV's reviewed at audit.
40.	Spill Prevention, Control and Countermeasure Plan (SPCCP)	Confirm revisions, if any	51	Obtained copy of November 2012 revision (January 2011 original). Plan doesn't get approved, only inspected. Revision date of November 2012 confirmed at audit.
41.	Off-Road Diesel Construction Equipment Engines	Check copies of CARB certification	57	Certifications checked at audit, current equipment using Interim Tier IV engines.
42.	Noise & Vibration Monitoring	Check reports	n/a (80 & 116 in 2011 matrix)	No request by County for additional monitoring in 2012 or for review of Behrens & Associates monitoring by independent consultant (Steve Rogers).

File Review				
43.	New Tank Specifications	Check compliance docs, if any	107	Compliance determined by quantity and location requirements. The tanks themselves do not require a permit; however, CSD requirements are confirmed during building & safety, public works, and third party consultant (MRS) review.
44.	Well and Production Reporting	Confirm filing for 2012 reporting	111	Obtained 1-30-12 transmittal re 2011 well and production reporting; stop review of 2012 reporting completed at audit.

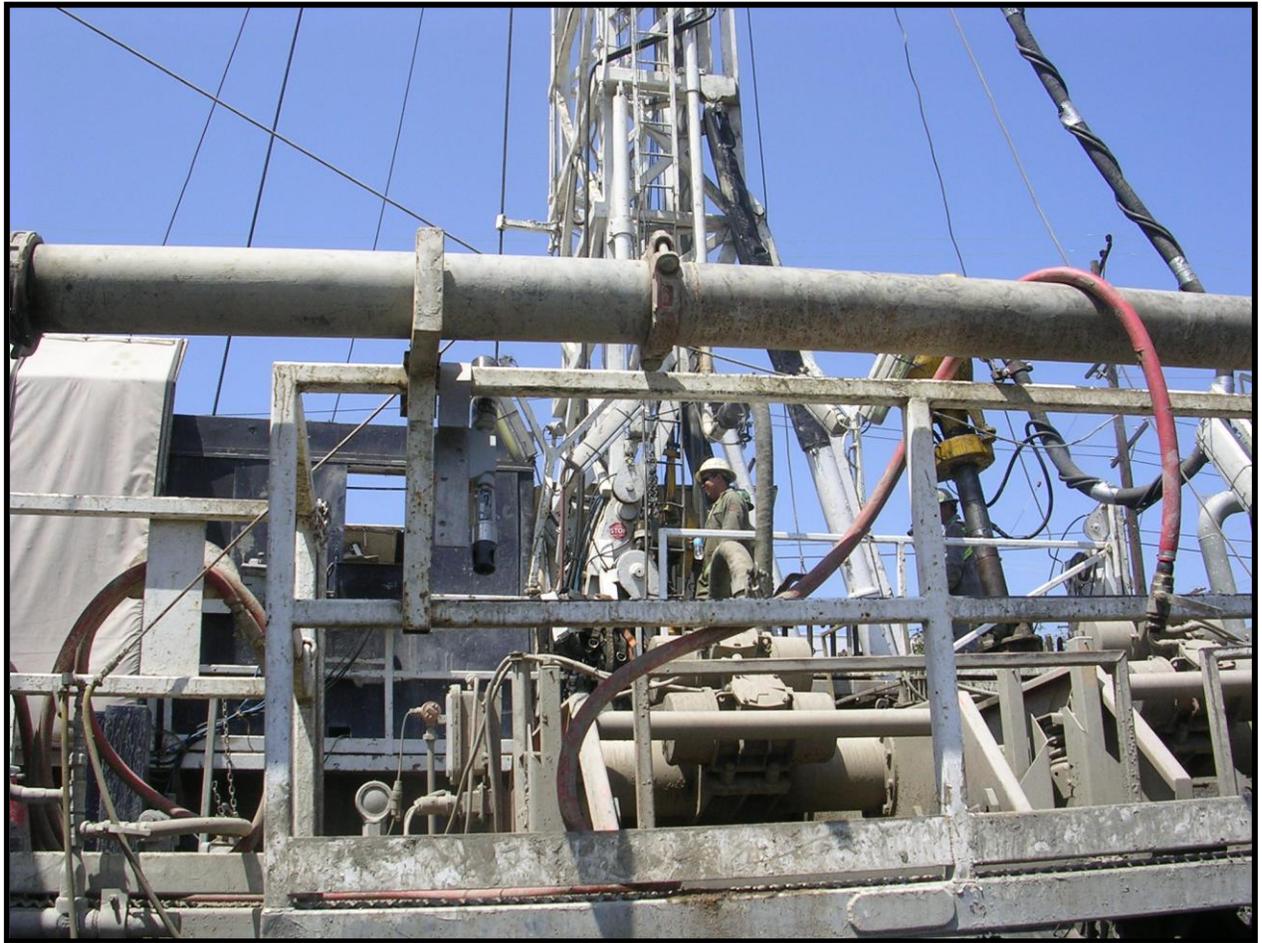
Field Review				
Appendix A			Item #	Notes
1.	Signs	Confirm quiet mode signs posted at every drilling and redrilling site	1c	Confirmation obtained during site visits.
		Confirm post oil well identification signs posted	36	
		Confirm main entrance sign posted	8	
		Confirm perimeter identification signs posted	11, 11a, 12	
		Confirm speed limit signs posted (15 mph)	26a	
		Confirm no littering signs posted	27	
2.	Fencing	Confirm entire site fenced	76, 80	Confirmation obtained during site visits.
3.	Air Monitoring stations	Check stations at drill/reworking site (2) & gas plant (4)	5b, 5c, 6c	Confirmation obtained during site visits.
		Check settings	5g.2	
		Confirm wind sock installed	6a	
4.	Noise	Confirm compliance (floor & board pads only)	60, 61, 63	Confirmation obtained during site visits.
5.	Belt Guards	Confirm compliance	91	Confirmation obtained during site visits.
6.	Single-Cellar Covers	Confirm compliance	78	Confirmation obtained during site visits.
7.	Machinery Enclosures	Confirm compliance	96	Confirmation obtained during site visits.
8.	Toilets and Wash Facilities	Confirm installed	73	Confirmation obtained during site visits.
9.	Hazardous Materials Storage	Check location and labeling	9a	None at drill sites during site visits.

Field Review				
<i>Appendix A</i>			<i>Item #</i>	<i>Notes</i>
10.	Odor Suppressant	Confirm use at biofarms (3)	14a	Confirmation obtained during site visits.
		Confirm use at drill site	14b	
11.	Portable Flare	Confirm installed at drill site	14c, 56	Confirmation obtained during site visits.
12.	Met Station	Visually check wind sensors	20c	Confirmation obtained during site visits.
13.	Eroded Hillside (n. of Stocker near La Brea)	Confirm completed	32c	Site visited during audit; future grading and well abandonment plans were discussed.
14.	SIMQAP	Spot check equipment	41	Equipment maintenance records reviewed during audit file review.
15.	Landscaping	Confirm compliance	26s, 34	Compliance, schedules, and future plan submittal discussed during audit file review. Landscaping progress reviewed during site visits.
16.	Vickers II Lower Basin	Check for odor	n/a	Vickers II Lower Basin has been empty during recent site visits.
17.	Biofarm Soil Removal	Confirm completed	n/a	Biofarm basins are empty for repairs and upgrades.

Drill rig with noise abatement pads



Drill Site – Mud Shakers with Odorant



Gas Plant: New Flare



Drill Site – Sound Wall



Air Monitor at a Drilling Site



Drill Site Signs



Drill Site Night Operations



Watering Truck



Basin

